

## REMARKS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments, and the following remarks.

On Page 2 of the Office Action, the Patent Examiner has rejected claims 30-33, and 36-38 under 35 U.S.C. 102(b) as being anticipated by *Hattler et al* (U.S. Patent No. 5,501,663).

On Page 3 of the Office Action, the Patent Examiner has rejected claim 34 under 35 U.S.C. 103(a) as being unpatentable over *Hattler et al* (U.S. Patent No. 5,501,663) in view of *Berry et al* (U.S. Patent No. 5,125,902).

Also on Page 3 of the Office Action, the Patent Examiner has rejected claim 35 under 35 U.S.C. 103(a) as being unpatentable over *Hattler et al* (U.S. Patent No. 5,501,663) in view of *Berry et al* (U.S. Patent No. 5,093,376).

The amendments to this patent application are as follows. Claim 30 was amended in order to more clearly distinguish over the prior art references.

Support for this Amendment to claim 30 is found in the current wording of the pending claim 30. In addition, there is the added wording that the first-mentioned bundle of fibers is the "first" bundle of fibers. This makes it easier to distinguish between the two bundles of fibers in the wording of the pending claim 30.

Additionally, wording was added to the role of the connections of the first bundle of fibers, and of the second bundle of fibers respectively. Thus, the wording makes it clear that the "first bundle of fibers" and the "neighbouring bundle of fibers" are divided axially by one shared "connection" element. This shared connection is the second connection of the first bundle of fibers, and it is at the same time the first connection of the neighbouring, second bundle of fibers.

Novelty and patentability over *Hattler* are better emphasised with the new wording of claim 30.

In the last Office Action, the Patent Examiner pointed out that *Hattler* can be interpreted as showing two "axially disposed" bundles of fibers.

The wording now present in claim 30 makes it clear that two

bundles of fibers are only to be understood as a "first bundle of fibers and a neighbouring bundle of fibers" in the sense of this patent application, if they are axially divided by a shared connector.

In addition to being novel over *Hattler*, the wording of now amended claim 30 even describes an oxygenator which has a great advantage over *Hattler*.

Starting from a certain, given length of an oxygenator, the provision of at least two neighbouring bundles of fibers along the axis of the oxygenator leads to a constellation, in which each of the fiber bundles comprises fibers, which are by far shorter than the fibers in *Hattler*. Already the provision of "only" two fiber bundles reduces the average length of the fibers to half of the length of the fibers of *Hattler*.

The effect of this reducing of the fiber length is described in detail in the Specification of the present patent application, see para 10042 of the application publication *US 2005/0232811 A1*:

"If the oxygenator has a plurality of fiber bundles arranged in series, it is proposed that they be all twisted in the same direction. The blood exerts a force onto the fibers

spread into a layer, thus deforming the same. Depending on the turbulence and on the homogeneity of the flow, regions may form in which the fibers are for example too close so that the blood will find it difficult to flow through them. In view of this problem, it may be appropriate that the fibers have but the smallest possible length between two fixed fiber points, for example the connections. A constellation in which a plurality of fiber bundles are connected in series and twisted in the same direction has the advantage that the flow generated along the fibers over a long distance of the blood flow is particularly good without the various fibers becoming too unstable or so long that the gaseous mixture of oxygen and carbon dioxide flowing therein becomes too rich in carbon dioxide. In the case of a plurality of fiber bundles accordingly having a plurality of connection pairs, oxygen supply may occur at each first connection. A stable structure consisting of a very large quantity of fibers may be provided, which advantageously implies a large overall fiber surface."

The present invention as defined by the amended claim 30 can not be rendered obvious by *Hattler*:

*Hattler* explicitly provides one elongated bundle of fibers, even if the fibers within this one elongated bundle can be

twisted in different directions.

Any elements making the oxygenator complicated by dividing the bundle of fibers into a plurality of bundles would therefore not be necessary, and they would even stand in contrast to the oxygenator that *Hattler* discloses.

The present invention as recited by claim 30, in contrast to *Hattler*, provides several individual bundles of fibers, because the inventor has found out that the oxygenator provides much better results when the fibers are twisted in the operational state inside the human body.

It is only during the insertion procedure that the inventor keeps the oxygenator in a non-twisted state as shown in figure 1 of the present patent application.

The deficiencies in the teachings of the primary reference to *Hattler* are not overcome by the secondary references to *Berry* (U.S. Patent No. 5,125,902) and to *Berry* (U.S. Patent No. 5,098,376). The discussion of each *Berry* patent as set forth in the Remarks portion of the Amendment filed October 29, 2007 is herewith incorporated by reference.

For all the reasons set forth above, none of the prior art references provide an identical disclosure of the claimed invention. Hence, the present invention is not anticipated under 35 U.S.C. 102, but is patentable under 35 U.S.C. 103 over all the prior art applied by the Patent Examiner. Withdrawal of these grounds of rejection is respectfully requested.

A prompt notification of allowability is respectfully requested.

Respectfully submitted,  
GIORGIO CATTANEO ET AL.-2



COLLARD & ROE, P.C.

Edward R. Freedman, Reg. No. 26,048

1077 Northern Boulevard  
Roslyn, New York 11576  
(516) 365-9802  
Attorney for Applicant

ERF:lgh

Enclosures: 1. Copy Petition 3 Month Extension of Time (Small Entity)  
2. Second Supplemental IDS

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on October 2, 2008.

  
Amy Klein